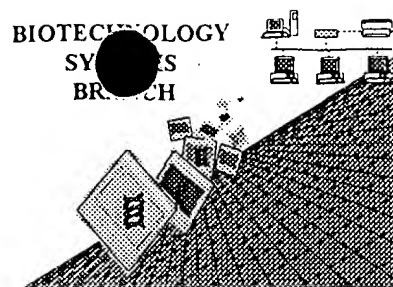


RAW SEQUENCE LISTING ERROR REPORT



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/701,623 A

Source: Pct

Date Processed by STIC: 5-29-01

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT,

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 – 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

PCT

RAW SEQUENCE LISTING

DATE: 05/29/2001

PATENT APPLICATION: US/09/701,623A

TIME: 16:03:21

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

SEQUENCE LISTING

8 (1) GENERAL INFORMATION:

10 (i) APPLICANT: UNITED BIOMEDICAL INC., et al.
 12 (ii) TITLE OF INVENTION: PEPTIDE COMPOSITION AS
 13 IMMUNOGEN FOR THE TREATMENT OF ALLERGY
 15 (iii) NUMBER OF SEQUENCES: 91
 17 (iv) CORRESPONDENCE ADDRESS:
 18 (A) ADDRESSEE: Morgan & Finnegan
 19 (B) STREET: 345 Park Avenue
 20 (C) CITY: New York
 21 (D) STATE: NY
 22 (E) COUNTRY: USA
 23 (F) ZIP: 10154-0053
 25 (v) COMPUTER READABLE FORM:
 26 (A) MEDIUM TYPE: Floppy disk
 27 (B) COMPUTER: IBM PC compatible
 28 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 29 (D) SOFTWARE: WORD 8.0
 31 (vi) CURRENT APPLICATION DATA:
 C--> 32 (A) APPLICATION NUMBER: US/09/701,623A
 C--> 33 (B) FILING DATE: 01-May-2001
 39 (C) CLASSIFICATION: 514
 36 (vii) PRIOR APPLICATION DATA:
 37 (A) APPLICATION NUMBER: US 09/100,287
 38 (B) FILING DATE: 20-JUN-1998
 41 (viii) ATTORNEY/AGENT INFORMATION:
 42 (A) NAME: MARIA C.H.LIN
 43 (B) REGISTRATION NUMBER: 29,323
 44 (C) REFERENCE/DOCKET NUMBER: 1151-4153US1
 46 (ix) TELECOMMUNICATION INFORMATION:
 47 (A) TELEPHONE: 212-758-4800
 48 (B) TELEFAX: 212-751-6849

Does Not Comply
 Corrected Diskette Needed

ERRORED SEQUENCES

57 (2) INFORMATION FOR SEQ ID NO: 1:
 59 (i) SEQUENCE CHARACTERISTICS:
 60 (A) LENGTH: 325 amino acids
 61 (B) TYPE: amino acid
 62 (D) TOPOLOGY: linear
 64 (ii) MOLECULE TYPE: protein
 66 (ix) FEATURE:
 67 (A) NAME/KEY: O chain of human IgE
 69 (x) PUBLICATION INFORMATION:
 70 (A) AUTHORS: Dorrington and Bennich
 71 (C) JOURNAL: Immunol

RAW SEQUENCE LISTING

DATE: 05/29/2001

PATENT APPLICATION: US/09/701,623A

TIME: 16:03:21

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

72 (D) VOLUME: 41
 73 (F) PAGES: 3-25
 74 (G) DATE: 1978
 76 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
 78 Val Cys Ser Arg Asp Phe Thr Pro Pro Thr Val Lys
 79 1 5 10
 80 Ile Leu Gln Ser Ser Cys Asp Gly Gly Gly His Phe
 81 15 20
 82 Pro Pro Thr Ile Gln Leu Leu Cys Leu Val Ser Gly
 83 25 30 35
 84 Tyr Thr Pro Gly Thr Ile Asn Ile Thr Trp Leu Glu
 85 40 45
 86 Asp Gly Gln Val Met Asp Val Asp Leu Ser Thr Ala
 87 50 55 60
 88 Ser Thr Thr Gln Glu Gly Glu Leu Ala Ser Thr Gln
 89 65 70
 90 Ser Glu Leu Thr Leu Ser Gln Lys His Trp Leu Ser
 91 75 80
 92 Asp Arg Thr Tyr Thr Cys Gln Val Thr Tyr Gln Gly
 93 85 90 95
 94 His Thr Phe Glu Asp Ser Thr Lys Lys Cys Ala Asp
 95 100 105
 96 Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu Ser Arg
 97 110 115 120
 98 Pro Ser Pro Phe Asp Leu Phe Ile Arg Lys Ser Pro
 99 125 130
 100 Thr Ile Thr Cys Leu Val Val Asp Leu Ala Pro Ser
 E--> 101 135 14 140
 109 Lys Gly Thr Val Asn Leu Thr Trp Ser Arg Ala Ser
 110 145 150 155
 111 Gly Lys Pro Val Asn His Ser Thr Arg Lys Glu Glu
 112 160 165
 113 Lys Gln Arg Asn Gly Thr Leu Thr Val Thr Ser Thr
 114 170 175 180
 115 Leu Pro Val Gly Thr Arg Asp Trp Ile Glu Gly Glu
 116 185 190
 117 Thr Tyr Gln Cys Arg Val Thr His Pro His Leu Pro
 118 195 200
 119 Arg Ala Leu Met Arg Ser Thr Thr Lys Thr Ser Gly
 120 205 210 215
 121 Pro Arg Ala Ala Pro Glu Val Tyr Ala Phe Ala Thr
 122 220 225
 123 Pro Glu Trp Pro Gly Ser Arg Asp Lys Arg Thr Leu
 124 230 235 240
 125 Ala Cys Leu Ile Gln Asn Phe Met Pro Glu Asp Ile
 126 245 250
 127 Ser Val Gln Trp Leu His Asn Glu Val Gln Leu Pro
 128 255 260
 129 Asp Ala Arg His Ser Thr Thr Gln Pro Arg Lys Thr

Invalid amino
acid numbering.

RAW SEQUENCE LISTING

DATE: 05/29/2001

PATENT APPLICATION: US/09/701,623A

TIME: 16:03:21

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

```

130      265      270      275
131  Lys Gly Ser Gly Phe Phe Val Phe Ser Arg Leu Glu
132      280      285
133  Val Thr Arg Ala Glu Trp Gln Glu Lys Asp Glu Phe
134      290      295      300
135  Ile Cys Arg Ala Val His Glu Ala Ala Ser Pro Ser
136      305      310
137  Gln Thr Val Gln Arg Ala Val Ser Val Asn Pro Gly
138      315      320
139  Lys
140  325

```

142 (2) INFORMATION FOR SEQ ID NO: 2:

144 (i) SEQUENCE CHARACTERISTICS:

145 (A) LENGTH: 312 amino acids

146 (B) TYPE: amino acid

147 (D) TOPOLOGY: linear

149 (ii) MOLECULE TYPE: protein

151 (ix) FEATURE:

152 (A) NAME/KEY: O chain of dog IgE

C--> 154 (x) PUBLICATION INFORMATION:

162 (A) AUTHORS: Patel et al.

163 (C) JOURNAL: Immunogenetics

164 (D) VOLUME: 41

165 (F) PAGES: 282-286

166 (G) DATE: 1995

169 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

```

171  Ala Cys Ala Leu Asn Phe Ile Pro Pro Thr Val Lys
172      1      5      10
173  Leu Phe His Ser Ser Cys Asn Pro Val Gly Asp Thr
174      15      20
175  His Thr Thr Ile Gln Leu Leu Cys Leu Ile Ser Gly
176      25      30      35
177  Tyr Val Pro Gly Asp Met Glu Val Ile Trp Leu Val
178      40      45
179  Asp Gly Gln Lys Ala Thr Asn Ile Phe Pro Tyr Thr
180      50      55      60
181  Ala Pro Gly Thr Lys Glu Gly Asn Val Thr Ser Thr
182      65      70
183  His Ser Glu Leu Asn Ile Thr Gln Gly Glu Trp Val
184      75      80
185  Ser Gln Lys Thr Tyr Thr Cys Gln Gly Phe Thr Phe
186      85      90      95
187  Lys Asp Glu Ala Arg Lys Cys Ser Glu Ser Asp Pro
188      100      105
189  Arg Gly Val Thr Ser Tyr Leu Ser Pro Pro Ser Pro
190      110      115      120
191  Leu Asp Leu Tyr Val His Lys Ala Pro Lys Ile Thr
192      125      130
193  Cys Leu Val Val Asp Leu Ala Thr Met Glu Gly Met

```

RAW SEQUENCE LISTING

DATE: 05/29/2001

PATENT APPLICATION: US/09/701,623A

TIME: 16:03:21

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

```

194          135          140
195 Asn Leu Thr Trp Tyr Arg Glu Ser Lys Glu Pro Val
196 145          150          155
197 Asn Pro Gly Pro Leu Asn Lys Lys Asp His Phe Asn
E--> 198          160          165
199 Gly Thr Ile Thr Val Thr Ser Thr Leu Pro Val Asn
200 170          175          180
201 Thr Asn Asp Trp Ile Glu Gly Glu Thr Tyr Tyr Cys
202          185          190
203 Arg Val Thr His Pro His Leu Pro Lys Asp Ile Val
204          195          200
205 Arg Ser Ile Ala Lys Ala Pro Gly Lys Arg Ala Pro
E--> 206 205          210          215
214 Pro Asp Val Tyr Leu Phe Leu Pro Pro Glu Glu Glu
215          220          225
216 Gln Gly Thr Lys Asp Arg Val Thr Leu Thr Cys Leu
217 230          235          240
218 Ile Gln Asn Phe Phe Pro Ala Asp Ile Ser Val Gln
219          245          250
220 Trp Leu Arg Asn Asp Ser Pro Ile Gln Thr Asp Gln
221          255          260
222 Tyr Thr Thr Thr Gly Pro His Lys Val Ser Gly Ser
223 265          270          275
224 Arg Pro Ala Phe Phe Ile Phe Ser Arg Leu Glu Val
225          280          285
226 Ser Arg Val Asp Trp Glu Gln Lys Asn Lys Phe Thr
227 290          295          300
228 Cys Gln Val Val His Glu Ala Leu Ser Gly Ser Arg
229          305          310
232 (2) INFORMATION FOR SEQ ID NO: 3:
234 (i) SEQUENCE CHARACTERISTICS:
235 (A) LENGTH: 313 amino acids
236 (B) TYPE: amino acid
237 (D) TOPOLOGY: linear
239 (ii) MOLECULE TYPE: protein
241 (ix) FEATURE:
242 (A) NAME/KEY: O chain of rat IgE
244 (x) PUBLICATION INFORMATION:
245 (A) AUTHORS: Steen et al.
246 (C) JOURNAL: J Mol Biol
247 (D) VOLUME: 177
248 (F) PAGES: 19-32
249 (G) DATE: 1984
251 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
253 Ala Arg Pro Val Asn Ile Thr Lys Pro Thr Val Asp
254 1 5 10
255 Leu Leu His Ser Ser Cys Asp Pro Asn Ala Phe His
256 15 20
257 Ser Thr Ile Gln Leu Tyr Cys Phe Val Tyr Gly His

```

*Invalid amino acid
numbering.*

RAW SEQUENCE LISTING

DATE: 05/29/2001

PATENT APPLICATION: US/09/701,623A

TIME: 16:03:21

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

E--> 258 25 30 3 35

266 Ile Gln Asn Asp Val Ser Ile His Trp Leu Met Asp

267 40 45

268 Asp Arg Lys Ile Tyr Asp Thr His Ala Gln Asn Val

269 50 55 60

270 Leu Ile Lys Glu Glu Gly Lys Leu Ala Ser Thr Tyr

271 65 70

272 Ser Arg Leu Asn Ile Thr Gln Gln Gln Trp Met Ser

273 75 80

274 Glu Ser Thr Phe Thr Cys Lys Val Thr Ser Gln Gly

275 85 90 95

276 Glu Asn Tyr Trp Ala His Thr Arg Arg Cys Ser Asp

277 100 105

278 Asp Glu Pro Arg Gly Val Ile Thr Tyr Leu Ile Pro

279 110 115 120

280 Pro Ser Pro Leu Asp Leu Tyr Glu Asn Gly Thr Pro

281 125 130

282 Lys Leu Thr Cys Leu Val Leu Asp Leu Glu Ser Glu

283 135 140

284 Glu Asn Ile Thr Val Thr Trp Val Arg Glu Arg Lys

285 145 150 155

286 Lys Ser Ile Gly Ser Ala Ser Gln Arg Ser Thr Lys

287 160 165

288 His His Asn Ala Thr Thr Ser Ile Thr Ser Ile Leu

289 170 175 180

290 Pro Val Asp Ala Lys Asp Trp Ile Glu Gly Glu Gly

291 185 190

292 Tyr Gln Cys Arg Val Asp His Pro His Phe Pro Lys

293 195 200

294 Pro Ile Val Arg Ser Ile Thr Lys Ala Leu Gly Leu

295 205 210 215

296 Arg Ser Ala Pro Glu Val Tyr Val Phe Leu Pro Pro

297 220 225

298 Glu Glu Glu Glu Lys Asn Lys Arg Thr Leu Thr Cys

299 230 235 240

300 Leu Ile Gln Asn Phe Phe Pro Glu Asp Ile Ser Val

301 245 250

302 Gln Trp Leu Gln Asp Ser Lys Leu Ile Pro Lys Ser

303 255 260

304 Gln His Ser Thr Thr Thr Pro Leu Lys Thr Asn Gly

305 265 270 275

306 Ser Asn Gln Arg Phe Phe Ile Phe Ser Arg Leu Glu

307 280 285

308 Val Thr Lys Ala Leu Trp Thr Gln Thr Lys Gln Phe

309 290 295 300

310 Thr Cys Arg Val Ile His Glu Ala Leu Arg Glu Pro

*Invalid amino
acid numbering.*

E--> 311 305 31 310

319 Arg

321 (2) INFORMATION FOR SEQ ID NO: 4:

RAW SEQUENCE LISTING

DATE: 05/29/2001

PATENT APPLICATION: US/09/701,623A

TIME: 16:03:21

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

```

323 (i) SEQUENCE CHARACTERISTICS:
324 (A) LENGTH: 313 amino acids
325 (B) TYPE: amino acid
326 (D) TOPOLOGY: linear
328 (ii) MOLECULE TYPE: protein
330 (ix) FEATURE:
331 (A) NAME/KEY: O chain of mouse IgE
333 (x) PUBLICATION INFORMATION:
334 (A) AUTHORS: Ishida et al.
335 (C) JOURNAL: EMBO
336 (D) VOLUME: 1
337 (F) PAGES: 1117-1123
338 (G) DATE: 1982
340 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
342 Val Arg Pro Val Thr His Ser Leu Ser Pro Pro Trp
343 1 5 10
344 Ser Tyr Ser Ile His Arg Cys Asp Pro Asn Ala Phe
345 15 20
347 His Ser Thr Ile Gln Leu Tyr Cys Phe Ile Tyr Gly
348 25 30 35
349 His Ile Leu Asn Asp Val Ser Val Ser Trp Leu Met
350 40 45
351 Asp Asp Arg Glu Ile Thr Asp Thr Leu Ala Gln Thr
352 50 55 60
353 Val Leu Ile Lys Glu Glu Gly Lys Leu Ala Ser Thr
354 65 70
355 Cys Ser Lys Leu Asn Ile Thr Glu Gln Gln Trp Met
356 75 80
357 Ser Glu Ser Thr Phe Thr Cys Arg Val Thr Ser Gln
358 85 90 95
359 Gly Cys Asp Tyr Leu Ala His Thr Arg Arg Cys Pro
360 100 105
361 Asp His Glu Pro Arg Gly Ala Ile Thr Tyr Leu Ile
362 110 115 120
363 Pro Pro Ser Pro Leu Asp Leu Tyr Gln Asn Gly Ala
364 125 130
372 Pro Lys Leu Thr Cys Leu Val Val Asp Leu Glu Ser
373 135 140
374 Glu Lys Asn Val Asn Val Thr Trp Asn Gln Glu Lys
375 145 150 155
376 Lys Thr Ser Val Ser Ala Ser Gln Trp Tyr Thr Lys
377 160 165
378 His His Asn Asn Ala Thr Thr Ser Ile Thr Ser Ile
379 170 175 180
380 Leu Pro Val Val Ala Lys Asp Trp Ile Glu Gly Tyr
381 185 190
382 Gly Tyr Gln Cys Ile Val Asp Arg Pro Asp Phe Pro
383 195 200
384 Lys Pro Ile Val Arg Ser Ile Thr Lys Thr Pro Gly

```

*Invalid amino
acid numbering.*

E-->

RAW SEQUENCE LISTING

DATE: 05/29/2001

PATENT APPLICATION: US/09/701,623A

TIME: 16:03:21

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

```

385      205      210      215
386      Gln Arg Ser Ala Pro Glu Val Tyr Val Phe Pro Pro
387      220      225
388      Pro Glu Glu Glu Ser Glu Asp Lys Arg Thr Leu Thr
389      230      235      240
390      Cys Leu Ile Gln Asn Phe Phe Pro Glu Asp Ile Ser
391      245      250
392      Val Gln Trp Leu Gly Asp Gly Lys Leu Ile Ser Asn
393      255      260
394      Ser Gln His Ser Thr Thr Thr Pro Leu Lys Ser Asn
395      265      270      275
396      Gly Asn Gln Gly Phe Phe Ile Phe Ser Arg Leu Glu
397      280      285
398      Val Ala Lys Thr Leu Trp Thr Gln Arg Lys Gln Phe
399      290      295      300
400      Thr Cys Gln Val Ile His Glu Ala Leu Gln Lys Pro
401      305      310
402      Arg

```

(2) INFORMATION FOR SEQ ID NO: 5:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 25 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

```

E--> 416      Cys Gly Glu Thr Tyr Gln Ser Arg Val Thr His Pro
417      1      5      1  → 10
425      His Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys
426      15      20
427      Cys
428      25

```

(2) INFORMATION FOR SEQ ID NO: 16:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:

```

OK--> 773      Pro Pro Xaa Pro Xaa Pro
E--> 774      1      5

```

(2) INFORMATION FOR SEQ ID NO: 22:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 60 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 19

*misaligned amino acid
numbering. Use spaces
not tabs*

RAW SEQUENCE LISTING

DATE: 05/29/2001

PATENT APPLICATION: US/09/701,623A

TIME: 16:03:21

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

```

1100      (D) OTHER INFORMATION: /note= "Ile, Met or
1101 Leu"
1103      (ix) FEATURE:
1104          (A) NAME/KEY: Modified-site
1105          (B) LOCATION: 20
1106          (D) OTHER INFORMATION: /note= "Ser or Thr"
1115      (ix) FEATURE:
1116          (A) NAME/KEY: Modified-site
1117          (B) LOCATION: 23
1118          (D) OTHER INFORMATION: /note= "Lys or Arg"
1120      (ix) FEATURE:
1121          (A) NAME/KEY: Modified-site
1122          (B) LOCATION: 24
1123          (D) OTHER INFORMATION: /note= "Gly or Thr"
1125      (ix) FEATURE:
1126          (A) NAME/KEY: Modified-site
1127          (B) LOCATION: 28
1128          (D) OTHER INFORMATION: /note= "His or Thr"
1130      (ix) FEATURE:
1131          (A) NAME/KEY: Modified-site
1132          (B) LOCATION: 29
1133          (D) OTHER INFORMATION: /note= "Lys or Arg"
1135      (ix) FEATURE:
1136          (A) NAME/KEY: Modified-site
1137          (B) LOCATION: 30
1138          (D) OTHER INFORMATION: /note= "Ile, Met or
1139 Leu"
1141      (ix) FEATURE:
1142          (A) NAME/KEY: Modified-site
1143          (B) LOCATION: 32
1144          (D) OTHER INFORMATION: /note= "Gly or Thr"
1146      (ix) FEATURE:
1147          (A) NAME/KEY: Modified-site
1148          (B) LOCATION: 33
1149          (D) OTHER INFORMATION: /note= "Ile, Met or
1150 Val"
1152      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:
1154      Thr Ala Lys Ser Lys Lys Phe Pro Ser Tyr Thr Ala
E--> 1155      1      5      10      /
W--> 1156      Thr Tyr Gln Phe Gly Gly Xaa Xaa Glu Ile Xaa Xaa
E--> 1157      15      20      /
W--> 1158      Val Ile Val Xaa Xaa Xaa Glu Xaa Xaa Gly Gly Cys
E--> 1159      25      30      35
1160      Gly Glu Thr Tyr Gln Ser Arg Val Thr His Pro His
E--> 1161      40      45
1170      Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys Cys
E--> 1171      50      55      60
1310 (2) INFORMATION FOR SEQ ID NO: 25:
1312      (i) SEQUENCE CHARACTERISTICS:

```

*misaligned amino acid
number. use spaces
not tabs*

RAW SEQUENCE LISTING

DATE: 05/29/2001

PATENT APPLICATION: US/09/701,623A

TIME: 16:03:21

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

1313 (A) LENGTH: 45 amino acids
 1314 (B) TYPE: amino acid
 1315 (D) TOPOLOGY: linear
 1317 (ii) MOLECULE TYPE: peptide
 1319 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:
 1321 Lys Lys Lys Ile Ile Thr Ile Thr Arg Ile Ile Thr
 E--> 1322 1 5 1 → 10
 1331 Ile Ile Thr Thr Ile Asp Gly Gly Cys Gly Tyr Gly
 1332 15 20
 1333 Tyr Gln Ser Ile Val Asp His Pro Asp Phe Pro Lys
 1334 25 30 35
 1335 Pro Ile Val Arg Ser Ile Thr Lys Cys
 1336 40 45
 1360 (2) INFORMATION FOR SEQ ID NO: 27:
 1362 (i) SEQUENCE CHARACTERISTICS:
 1363 (A) LENGTH: 46 amino acids
 1364 (B) TYPE: amino acid
 1365 (D) TOPOLOGY: linear
 1367 (ii) MOLECULE TYPE: peptide
 1369 (ix) FEATURE:
 1370 (A) NAME/KEY: Modified-site
 1371 (B) LOCATION: 1
 1372 (D) OTHER INFORMATION: /note= "Met or Leu"
 1374 (ix) FEATURE:
 1375 (A) NAME/KEY: Modified-site
 1376 (B) LOCATION:
 1385 (D) OTHER INFORMATION: /note= "Thr"
 1387 (ix) FEATURE:
 1388 (A) NAME/KEY: Modified-site
 1389 (B) LOCATION: 7
 1391 (D) OTHER INFORMATION: /note= "Arg"
 1393 (ix) FEATURE:
 1394 (A) NAME/KEY: Modified-site
 1395 (B) LOCATION: 8
 1396 (D) OTHER INFORMATION: /note= "Thr"
 1398 (ix) FEATURE:
 1399 (A) NAME/KEY: Modified-site
 1400 (B) LOCATION: 12
 1401 (D) OTHER INFORMATION: /note= "Thr"
 1403 (ix) FEATURE:
 1404 (A) NAME/KEY: Modified-site
 1405 (B) LOCATION: 13
 1406 (D) OTHER INFORMATION: /note= "Arg"
 1408 (ix) FEATURE:
 1409 (A) NAME/KEY: Modified-site
 1410 (B) LOCATION: 14
 1411 (D) OTHER INFORMATION: /note= "Met or Leu"
 1413 (ix) FEATURE:
 1414 (A) NAME/KEY: Modified-site

No "Xaa's"
 shown in
 seq # 27.

RAW SEQUENCE LISTING

DATE: 05/29/2001

PATENT APPLICATION: US/09/701,623A

TIME: 16:03:21

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

1415 (B) LOCATION: 16
 1416 (D) OTHER INFORMATION: /note= "Thr"
 1418 (ix) FEATURE:
 1419 (A) NAME/KEY: Modified-site
 1420 (B) LOCATION: 17
 1421 (D) OTHER INFORMATION: /note= "Met or Val"
 1423 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27:
 1425 Ile Ser Ile Ser Glu Ile Lys Gly Val Ile Val His
 1426 1 5 10
 1427 Lys Ile Glu Gly Ile Leu Phe Gly Gly Cys Gly Glu
 1428 15 20
 1429 Thr Tyr Tyr Ser Arg Val Thr His Pro His Leu Pro
 E--> 1430 25 30 3
 1440 Lys Asp Ile Val Arg Ser Ile Ala Lys Cys
 1441 40 45
 1467 (2) INFORMATION FOR SEQ ID NO: 29:
 1469 (i) SEQUENCE CHARACTERISTICS:
 1470 (A) LENGTH: 60 amino acids
 1471 (B) TYPE: amino acid
 1472 (D) TOPOLOGY: linear
 1474 (ii) MOLECULE TYPE: peptide
 1476 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29:
 1478 Gln Gly His Thr Phe Glu Asp Ser Thr Lys Lys Cys
 1479 1 5 10
 1480 Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu
 1481 15 20
 1482 Ser Arg Pro Ser Pro Phe Asp Leu Phe Ile Arg Lys
 E--> 1483 25 30 3
 1491 Ser Pro Thr Ile Thr Ser Leu Val Val Asp Leu Ala
 1492 40 45
 1493 Pro Ser Lys Gly Thr Val Asn Leu Thr Trp Ser Arg
 1494 50 55 60
 1520 (2) INFORMATION FOR SEQ ID NO: 31:
 1522 (i) SEQUENCE CHARACTERISTICS:
 1523 (A) LENGTH: 76 amino acids
 1524 (B) TYPE: amino acid
 1525 (D) TOPOLOGY: linear
 1527 (ii) MOLECULE TYPE: peptide
 1529 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:
 1531 Gln Lys His Trp Leu Ser Asp Arg Thr Tyr Thr Ser
 1532 1 5 10
 1533 Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp Ser
 1534 15 20
 1535 Thr Lys Lys Cys Ala Asp Ser Asn Pro Arg Gly Val
 E--> 1536 25 30 3
 1544 Ser Ala Tyr Leu Ser Arg Pro Ser Pro Phe Asp Leu
 1545 40 45
 1546 Phe Ile Arg Lys Ser Pro Thr Ile Thr Ser Leu Val
 1547 50 55 60

No "Xaa's" shown
 in Seq. #27

35

35

35

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/701,623A

DATE: 05/29/2001

TIME: 16:03:21

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

```

1549      Val Asp Leu Ala Pro Ser Lys Gly Thr Val Asn Leu
1550                      65                      70
1552      Thr Trp Ser Arg
1553                      75
1573 (2) INFORMATION FOR SEQ ID NO: 33:
1575      (i) SEQUENCE CHARACTERISTICS:
1576          (A) LENGTH: 46 amino acids
1577          (B) TYPE: amino acid
1578          (D) TOPOLOGY: linear
1580      (ii) MOLECULE TYPE: peptide
1582      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:
1584      Gln Gly His Thr Phe Glu Asp Ser Thr Lys Lys Cys
1585          1              5              10
1586      Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu
1587          15              20
1588      Ser Arg Pro Ser Pro Phe Asp Leu Phe Ile Arg Lys
E--> 1589          25              30              35
1597      Ser Pro Thr Ile Thr Ser Leu Val Val Asp
1598          40              45
1625 (2) INFORMATION FOR SEQ ID NO: 35:
1627      (i) SEQUENCE CHARACTERISTICS:
1628          (A) LENGTH: 62 amino acids
1629          (B) TYPE: amino acid
1630          (D) TOPOLOGY: linear
1632      (ii) MOLECULE TYPE: peptide
1634      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:
1636      Gln Lys His Trp Leu Ser Asp Arg Thr Tyr Thr Ser
1637          1              5              10
1638      Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp Ser
1639          15              20
1640      Thr Lys Lys Cys Ala Asp Ser Asn Pro Arg Gly Val
1641          25              30              35
1642      Ser Ala Tyr Leu Ser Arg Pro Ser Pro Phe Asp Leu
E--> 1643          40              45
1652      Phe Ile Arg Lys Ser Pro Thr Ile Thr Ser Leu Val
1653          50              55              60
1654      Val Asp
2325 (2) INFORMATION FOR SEQ ID NO: 66:
2327      (i) SEQUENCE CHARACTERISTICS:
2328          (A) LENGTH: 27 amino acids
2329          (B) TYPE: amino acid
2330          (D) TOPOLOGY: linear
2332      (ii) MOLECULE TYPE: peptide
2334      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 66:
2336      Tyr Asp Pro Asn Tyr Leu Arg Thr Asp Ser Asp Lys
E--> 2337          1              5              10
2346      Asp Arg Phe Leu Gln Thr Met Val Lys Leu Phe Asn
2347          15              20
2348      Arg Ile Lys

```

DATE: 05/29/2001

TIME: 16:03:21

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

2349 25
2592 (2) INFORMATION FOR SEQ ID NO: 79:
2594 (i) SEQUENCE CHARACTERISTICS:
2595 (A) LENGTH: 17 amino acids
2596 (B) TYPE: amino acid
2597 (D) TOPOLOGY: linear
2599 (ii) MOLECULE TYPE: peptide
2601 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 79:
2603 Lys Trp Phe Lys Thr Asn Ala Pro Asn Gly Val Asp
E--> 2604 1 5 1 10
2612 Glu Lys Ile Arg Ile
2613 15
2716 (2) INFORMATION FOR SEQ ID NO: 85:
2718 (i) SEQUENCE CHARACTERISTICS:
2719 (A) LENGTH: 60 amino acids
2720 (B) TYPE: amino acid
2721 (D) TOPOLOGY: linear
2723 (ii) MOLECULE TYPE: peptide
2724 (ix) FEATURE:
2725 (A) NAME/KEY: Modified-site
2726 (B) LOCATION: 18
2727 (D) OTHER INFORMATION: /note= "Thr"
2729 (ix) FEATURE:
2730 (A) NAME/KEY: Modified-site
2731 (B) LOCATION: 21
2732 (D) OTHER INFORMATION: /note= "Arg"
2734 (ix) FEATURE:
2735 (A) NAME/KEY: Modified-site
2736 (B) LOCATION: 22
2737 (D) OTHER INFORMATION: /note= "Thr"
2740 (ix) FEATURE:
2741 (A) NAME/KEY: Modified-site
2742 (B) LOCATION: 26
2743 (D) OTHER INFORMATION: /note= "Thr"
2745 (ix) FEATURE:
2746 (A) NAME/KEY: Modified-site
2747 (B) LOCATION: 27
2748 (D) OTHER INFORMATION: /note= "Arg"
2750 (ix) FEATURE:
2751 (A) NAME/KEY: Modified-site
2752 (B) LOCATION: 30
2753 (D) OTHER INFORMATION: /note= "Thr"
2755 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 85:
2757 Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Lys Glu
2758 1 5 10
2759 Gly Gly Ile Ser Ile Ser Glu Ile Lys Gly Val Ile
2760 15 20
2761 Val His Lys Ile Glu Gly Ile Leu Phe Gly Gly Cys
E--> 2762 25 30 3

No "Xaa's" shown
in seg. # 85

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/701,623A

DATE: 05/29/2001

TIME: 16:03:21

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

2771 Gly Gly Thr Tyr Gln Ser Arg Val Thr His Pro His
2772 40 45
2773 Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys Cys
2774 50 55 60
2862 (2) INFORMATION FOR SEQ ID NO: 90:
2864 (i) SEQUENCE CHARACTERISTICS:
2865 (A) LENGTH: 45 amino acids
2866 (B) TYPE: amino acid
2867 (D) TOPOLOGY: linear
2877 (ii) MOLECULE TYPE: peptide
2879 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 90:
2881 Ile Ser Leu Thr Glu Ile Arg Thr Val Ile Val Thr
2882 1 5 10
2883 Arg Leu Glu Thr Val Leu Phe Lys Cys Gly Glu Thr
2884 15 20
2885 Tyr Tyr Ser Arg Val Thr His Pro His Leu Pro Lys
2886 25 30 35
E--> 2887 Asp Ile Val Arg Ser Ile Ala Lys Cysm
2888 40 45

Invalid amino acid
designator.

09/701, 623 A

p14

(2) INFORMATION FOR SEQ ID NO:47:

Seg # 47

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 19 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

→ Linear?

Repeated in Sequence #77

VERIFICATION SUMMARY

DATE: 05/29/2001

PATENT APPLICATION: US/09/701,623A

TIME: 16:03:22

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

L:32 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:33 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:101 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:1
L:154 M:220 C: Keyword misspelled or invalid format, [(x) PUBLICATION INFORMATION:]
L:198 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:2
L:206 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:2
L:258 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:3
L:311 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:3
L:364 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:4
L:417 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:5
L:588 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:590 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:666 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:668 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:773 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:774 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:16
L:862 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:864 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:929 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19
L:931 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19
L:992 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20
L:994 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20
L:1078 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:1080 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:1155 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:22
L:1156 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:1157 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:22
L:1158 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:1159 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:22
L:1161 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:22
L:1171 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:22
L:1185 M:220 C: Keyword misspelled or invalid format, [(D) OTHER INFORMATION:]
L:1243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23
L:1245 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23
L:1300 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24
L:1302 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24
L:1322 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:25
L:1430 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:27
L:1483 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:29
L:1536 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:31
L:1589 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:33
L:1643 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:35
L:1909 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=47
L:2216 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60
L:2218 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60
L:2337 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:66
L:2551 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=77
L:2604 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:79

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/701,623A

DATE: 05/29/2001

TIME: 16:03:22

Input Set : A:\PTO.txt

Output Set: C:\CRF3\05292001\I701623A.raw

L:2762 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:85
L:2887 M:333 E: Wrong sequence grouping, Amino acids not in groups!